Communications in

Mathematical Physics

Volume 100 1985

Chief Editor A. Jaffe, Cambridge, MA

Editorial Board
H. Araki, Kyoto
M. E. Fisher, Ithaca, NY
J. Fröhlich, Zürich
R. Haag, Hamburg
S. Hawking, Cambridge
O. Lanford, Bures-sur-Yvette
J. L. Lebowitz, New Brunswick, NJ
G. Mack, Hamburg
J. Mather, Princeton, NJ
L. Nirenberg, New York, NY
K. Osterwalder, Zürich
G. Parisi, Roma
B. Simon, Pasadena, CA
Ya. G. Sinai, Moscow
T. Spencer, New York, NY
S.-T. Yau, LaJolla, CA

Advisory Board
M. F. Atiyah, Oxford
F. Hirzebruch, Bonn
G. 't Hooft, Utrecht
R. Schrieffer, Santa Barbara, CA
I. Singer, Cambridge, MA
C. N. Yang, Stony Brook, NY

Springer-Verlag Berlin Heidelberg New York Tokyo

Copyright
Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.
All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e. g., as offprints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, video disks, etc., without first obtaining written permission from the publisher.
The use of general descriptive names, trade names, trademarks, etc., in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.
While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Special regulations for photocopies in the USA:
Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. This fee is US $ 0.20 per page, or a minimum of US $ 1.00 if an article contains fewer than five pages. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0010-3616, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.

Other regulations:
Authors publishing in this journal can, under certain conditions, benefit from library and photocopy fees collected by VG WORT. Authors of German nationality and those resident in the Federal Republic of Germany or Berlin (West), as well as citizens of Austria, Switzerland and member countries of the European Community, may apply to Verwertungsgesellschaft WORT, Abteilung Wissenschaft, Goethestraße 49, D-8000 München 2, for detailed information.

Springer-Verlag Berlin Heidelberg New York Tokyo
Printers: Brühlsche Universitätsdruckerei, Giessen
Printed in Germany — © Springer-Verlag Berlin Heidelberg 1985
Springer-Verlag GmbH & Co KG 1000 Berlin 33

Contents

Agler, J., Froese, R.: Existence of Stark Ladder Resonances 161
Alvarez, O.: Topological Quantization and Cohomology 279
Auberson, G., Mennessier, G.: The Reciprocal of a Borel Summable Function is Borel Summable 439
Chayes, J. T., Chayes, L., Fröhlich, J.: The Low-Temperature Behavior of Disordered Magnets 399
Chayes, L., see Chayes, J. T., et al. 399
Conlon, J. G.: The Ground State Energy of a Bose Gas with Coulomb Interaction 355
Corrigan, E., Goddard, P., Kent, A.: Some Comments on the ADHM Construction in $4k$ Dimensions 1
Crane, L., see Rabin, J. M. 141
Delyon, F., Lévy, Y., Souillard, B.: Anderson Localization for Multi-Dimensional Systems at Large Disorder or Large Energy 463
Feldman, J., Magnen, J., Rivasseau, V., Sénéor, R.: Bounds on Renormalized Feynman Graphs 23
Friedrich, H.: On the Hyperbolicity of Einstein's and Other Gauge Field Equations 525
Friedrich, T., Habermann, L.: Yang-Mills Equations on the Two Dimensional Sphere 231
Fröhlich, J., see Chayes, J. T., et al. 399
Froese, R., see Agler, J. 161
Gallavotti, G., Nicolò, F.: Renormalization Theory in Four-Dimensional Scalar Fields (I) 545
Gervais, J.-L., Neveu, A.: Oscillator Representations of the 2D-Conformal Algebra 15
Goddard, P., see Corrigan, E., et al. 1
Grossman, B., Kephart, T. W., Stasheff, J. D.: Solutions to Yang-Mills Field Equations in Eight Dimensions and the Last Hopf Map (Erratum) 311
Habermann, L., see Friedrich, T. 231
Hurtubise, J.: Monopoles and Rational Maps: A Note on a Theorem of Donaldson 191
Kay, B. S.: The Double-Wedge Algebra for Quantum Fields on Schwarzschild and Minkowski Spacetimes 57
Kennedy, T.: Long Range Order in the Anisotropic Quantum Ferromagnetic Heisenberg Model 447
Kent, A., see Corrigan, E., et al. 1
Kephart, T. W., see Grossman, B., et al. 311
Killingback, T. P.: Global Aspects of Fixing the Gauge in the Polyakov String and Einstein Gravity 267
Killingback, T. P.: Non-Linear σ-Models on Compact Riemann Surfaces 481
Lévy, Y., see Delyon, F., et al. 463
Lott, J.: Effective Actions and Large-N Limits 133
Magnen, J., see Feldman, J., et al. 23
Mañé, R.: Hyperbolicity, Sinks and Measure in One Dimensional Dynamics 495
Marchioro, C., Pulvirenti, M.: Some Considerations on the Nonlinear Stability of Stationary Planar Euler Flows 343
Mennessier, G., see Auberson, G. 439
Moore, G., Nelson, P.: The Aetiology of Sigma Model Anomalies 83
Nelson, P., see Moore, G. 83
Neveu, A., see Gervais, J.-L. 15
Nicolò, F., see Gallavotti, G. 545
Parker, T. H.: Gauge Choice in Witten's Energy Expression 471
Pulvirenti, M., see Marchioro, C. 343
Rabin, J. M., Crane, L.: Global Properties of Supermanifolds 141
Rivasseau, V., see Feldman, J., et al. 23
Sénéor, R., see Feldman, J., et al. 23
Shatah, J., Strauss, W.: Instability of Nonlinear Bound States 173
Siegmund-Schultze, R.: On Non-Equilibrium Dynamics of Multidimensional Infinite Particle Systems in the Translation Invariant Case 245

Souillard, B., see Delyon, F., et al. 463
Stasheff, J. D., see Grossman, B., et al. 311
Strauss, W., see Shatah, J. 173
Tomboulis, E. T., Yaffe, L. G.: Finite Temperature SU(2) Lattice Gauge Theory 313
Witten, E.: Global Gravitational Anomalies 197
Yaffe, L. G., see Tomboulis, E. T. 313

Indexed in Current Contents
Evaluated for Physics Briefs and INKA-PHYS data base